

REMARKS

The applicants thank the Examiner for the thorough consideration of the application. No new matter is believed to be added to this application by this Amendment.

Status Of The Claims

Claims 1-49 are pending in the application. Claims 11-49 have been withdrawn from consideration by the Examiner. Support for the Amendments to claim 1 can be found at page 34, lines 5-21 of the specification and in Figure 1. Allowable claim 3 has been rewritten to stand as an independent claim. Claim 4 has been amended to incorporate subject matter from allowable claim 3. Claim 5 has been amended to improve its language. Claims 6 and 10 have been amended to depend upon allowable claim 3.

Rejections based on Hata (paragraphs 2-5 of the Office Action)

Claims 1, 2, 4, 5 and 9 are rejected under 35 U.S.C. §102(a) as being anticipated by Hata (JP-2002329850). Claims 6-8 and 10 are rejected under 35 U.S.C. §103(a) as being obvious over Hata in view of Kyle (U.S. Patent 5,641,713). Claim 3 is free of these rejections. Applicants traverse.

The present invention pertains to a solid state imaging device having

external connecting terminals, i.e., bonding pads, that are exposed away from the bonded member. That is, the present invention utilizes a bonding pad that is not covered with resin.

The present invention has many embodiments, and a typical embodiment can be found in instant claim 1:

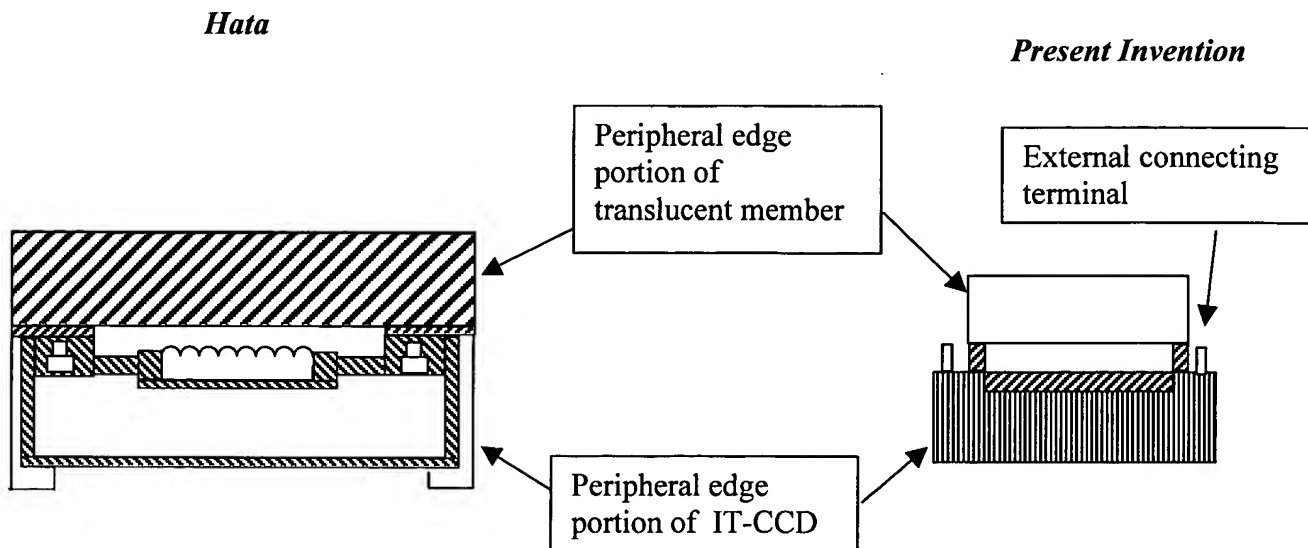
1. A method of manufacturing a solid-state imaging device comprising the steps of:
 - forming a plurality of IT-CCDs on a surface of a semiconductor substrate;
 - bonding a translucent member to the surface of the semiconductor substrate in order to have a gap opposite to each light receiving region of the IT-CCD;
 - forming an external connecting terminal corresponding to the IT-CCD; and
 - isolating a bonded member obtained at the bonding step and provided with the external connecting terminal for each of the IT-CCDs, wherein the external connecting terminal is exposed away from the bonded member.

Figures 1-4 of Hata show a translucent substrate 201 and a wafer 1 containing a microlens array 103 over a solid-state image sensor 102. At the sides of this construction can be found an electric conduction pattern 222 and an electrode 1c. Figures 7-9 of Hata show the formation of the chip package having a gap.

Hata fails to disclose a peripheral edge portion of the translucent member being positioned inside the peripheral edge portion of the CCD

substrate. Hata additionally fails to disclose an external connecting terminal provided outside of the peripheral edge portion of the translucent member. That is, Hata fails to disclose a bonding pad that is not covered with resin.

In contrast, claims 1 and 2 of the present invention set forth an external connecting terminal that corresponds to a bonding pad BP formed on the surface of the CCD substrate, which fundamentally differs from the configuration of Hata. Specifically, the bonding pad BP of the present invention provided on the surface of the IT-CCD substrate is separated from the sealing section formed by the spacer 203S and the glass substrate 201. On the other hand, Hata has none of the IC electrode 1c, electrode 2 or electric conduction pattern 22 corresponding to the configuration of claim 1. In order to better illustrate these differences, the inventors have prepared Appendix 1 and 2, which are attached.



As shown in Appendix A, Hata has the peripheral edge portion of the translucent member and the peripheral edge portion of the CCD substrate being aligned. In Hata, the external connecting terminal is provided on the bottom of the CCD substrate. In contrast, the present invention has the edge portion of the translucent member being positioned inside the peripheral edge portion of the CCD substrate. The present invention provides the external connecting terminal outside the peripheral edge portion of the translucent member.

Appendix B shows the bonding pad of Hata being covered with resin. In contrast, the bonding pad BP of the invention is not covered with resin.

As a result, Hata clearly fails to anticipate or suggest the invention. Also, the Examiner adds the teachings of Kyle to Hata to reject claims 6-8 and 10 for obviousness. Kyle, however, fails to address the deficiencies of Hata sufficient to allege *prima facie* obviousness. Also, claims 6-8 and 10 now depend upon allowable independent claim 3, thus mooted this rejection over Hata in view of Kyle.

These rejections are overcome and withdrawal thereof is respectfully requested.

Foreign Priority

In the Office Action, the Examiner asserts that none of the priority documents have been received. However, all the priority documents had been filed on June 30, 2003 in the Parent Application no. 10/419,861. Also, priority of the Japanese applications were duly claimed at page 2 of the application letter of July 14, 2003.

The Examiner is accordingly respectfully requested to fully acknowledge foreign priority in the next official action.

Information Disclosure Statement

The Examiner is thanked for considering the Information disclosure Statement filed July 14, 2003, and for making the initialed PTO-1449 form of record in the application in the Office Action mailed February 10, 2005.

The Drawings

The Examiner is respectfully requested to indicate whether the drawing figures are acceptable in the next official action.

Conclusion

The Examiner's rejections have been successfully traversed. No issues remain. The Examiner is accordingly respectfully requested to allow the application.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert E. Goozner, Ph.D. (Reg. No. 42,593) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

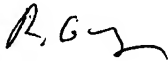
Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a two (2) month extension of time for filing a reply in connection with the present application, and the required fee of \$450.00 is attached hereto.

Application No.: 10/617,707
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Response to Office Action of February 10, 2005

Docket No.: 0649-0911P

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: July 11, 2005 (Monday)



Respectfully submitted,

By 

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